

Adduri Eshwar

AI Engineer | Data Scientist

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Skills

Languages: Python, SQL, Bash, JavaScript, Java, C

Machine Learning: PyTorch, MONAI, scikit-learn, Deep Learning, Computer Vision, Object Detection, 3D Segmentation, Model Evaluation (FROC, ROC), NLP, LLMs, Generative AI

Imaging & Vision: DICOM, SimpleITK, Elastix, VTK, OpenCV, 3D Slicer, Orthanc, Image Registration

MLOps & Data: Docker, CUDA, Linux, Git, GPU Administration, FastAPI, Streamlit, GCP, Pandas, NumPy, MySQL, Qdrant (Vector DB), Selenium, Tableau, Looker Studio

Experience

Image Processing AI Engineer

Aug 2025 – Present

Paraxial Technologies - New York, US (Remote)

- Cut peak GPU memory for the 3D detection pipeline from about **44 GB to 10.59 GB** by tuning patch sizes (512x512x64) and enforcing sliding-window inference, so it runs on 16 GB RTX 5070 Ti cards and returns the same detections as the 48 GB card it was built on.
- Rebuilt longitudinal nodule tracking with physical-space matching, a Z-axis slice overlap check and tuned Dice thresholds, which stopped separate nodules being merged across timepoints, and removed the Affine stage from CT registration to fix repeated Elastix crashes.
- Analyzed **11,365 annotated nodules** and reset MONAI RetinaNet anchor sizes with K-Means clustering, then re-trained the detector and measured FROC curves and sensitivity across thousands of studies to decide which models shipped.
- Built a nodule-worker microservice that pulls studies from an Orthanc server and returns segmentation in about **3.6 seconds**, split the monolithic pipeline into class-based modules with command-line entry points, and moved clinical output from HTML to automated PDF reports.
- Owned Docker builds and GPU infrastructure: cut the image from about **40 GB to 16 GB** keeping CUDA 12.8 and PyTorch working, and ran **10 GPU servers** (RTX 6000 Ada, 5070 Ti, PRO 6000 Blackwell) covering drivers, VPN, VNC, storage and networking.

Data Scientist Associate

Aug 2024 – May 2025

Blackcoffer - New Delhi, IN

- Automated data collection from **32+ legal and real estate portals** using Python, Selenium and Tor with account rotation and CAPTCHA handling, and used LLMs to pull structured fields from the results. Cut a six-hour daily task to thirty minutes, a **90% reduction**, with a Streamlit interface and automated reporting.
- Built a face and object detection system (Dlib, YOLOv3, OpenCV) with similarity search on a Qdrant vector database, dockerized and deployed on Salad.com GPU cloud, reaching **98% accuracy** with processing kept local on CUDA.
- Turned research scripts for 3D body estimation (SHAPY, OpenPose, SMPL-X) into a FastAPI service handling GPU tasks and async processing, and ran customer segmentation and financial analysis for two restaurant clients in Looker Studio.

Data Science Intern

Jan 2024 – May 2024

upGrad - Mumbai, IN

- Trained DenseNet121 models for image-based disease detection, applied data augmentation to improve accuracy on a limited dataset, and deployed the prototype for validation.

Projects

- **AI-Powered Smart Canteen System (2026):** Flask web app where students reserve meals and staff manage stock, with a RandomForest model trained on 60 days of booking history that predicts demand and rush hours and suggests quieter pickup times. SQLite, SQLAlchemy, Flask-Login.
- **Fashion Attribute Extraction Pipeline (2026):** Captions product images from an Excel sheet with a local BLIP model and passes each caption to Mistral on Ollama to return neckline, silhouette, waistline and sleeves as JSON, with retries and a regex fallback when the model output cannot be parsed.
- **Reddit User Persona Generator (2025):** Python pipeline that collects a user's posts and comments through PRAW and builds a behavioral persona with a local LLM on Ollama, citing the source comments for each trait.

Education & Certificates

Lovely Professional University - Phagwara, Punjab, IN

2020 – 2024

B.Tech, Computer Science & Engineering - Data Science | CGPA: 7.83/10.0

Certificates: Oracle Cloud Infrastructure 2024 Generative AI Certified Professional (Jul 2024) | Data Science Internship, upGrad (2024)